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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/376,743 | 08/17/1999 | YOUNG-KY KIM | 678-337(P886 | 6854 |

28249 7590 02/09/2005
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| EXAMINER |
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YUN, EUGENE

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| ART UNIT | PAPER NUMBER |
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2682

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/376,743

Applicant(s)

KIM ET AL.

Examiner

Eugene Yun

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 August 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/15/2004 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 13, 29, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's submitted prior art in view of Hughes (US 4,730,307).

Referring to Claim 1, the prior art teaches a mobile station device comprising a preamble generator 120 (fig. 1) for generating a preamble signal 210 (fig. 2) to be transmitted during a preamble interval prior to a transmission interval of a reverse access channel message 280 (fig. 2), and a transmitter (fig. 1) for spreading and modulating 140 (fig. 1) the preamble signal received from the preamble generator and

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transmitting it to a base station (see pg. 5, lines 1-3). The prior art does not teach the preamble signal transmitted intermittently during a preamble interval prior to a transmission interval of a message. Hughes teaches the preamble signal transmitted intermittently in order to reduce interference on other reverse link channels during a preamble interval prior to a transmission interval of a message (see fig. 3 and col. 7, lines 60-68) wherein the preamble signal includes a non-transmission interval 156-1 and 156-3 (figs. 5a-5c). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Hughes to said mobile station device of the applicant's submitted prior art in order to maximize transmission medium effective data rate.

Referring to Claim 13, the prior art teaches a transmitting method at a mobile station device comprising the steps of generating a preamble signal 210 (fig. 2) to be transmitted during a preamble interval prior to a transmission interval of a reverse access channel message 280 (fig. 2), and spreading and modulating 140 (fig. 1) the preamble signal received from the preamble generator and transmitting it to a base station (see pg. 5, lines 1-3). The prior art does not teach the preamble signal transmitted intermittently by a transmitter during a preamble interval prior to a transmission interval of a message. Hughes teaches the preamble signal transmitted intermittently by a transmitter in order to reduce interference on other reverse link channels during a preamble interval prior to a transmission interval of a message (see fig. 3 and col. 7, lines 60-68) wherein the preamble signal includes a non-transmission interval 156-1 and 156-3 (figs. 5a-5c). Therefore, it would have been obvious to one of

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ordinary skill in the art at the time the invention was made to provide the teachings of Hughes to said mobile station device of the applicant's submitted prior art in order to maximize transmission medium effective data rate.

Referring to Claims 29 and 30, Hughes also teaches the preamble interval including a plurality of transmission intervals 158-1, 160-1, 158-3 and 160-3 (figs. 5a-5c) and a plurality of non-transmission intervals 156-1 and 156-3 (figs. 5a-5c).

4. Claims 3-5, 9-12, 15-17, and 21-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's submitted prior art and Hughes in view of Scott et al. (US 6,154,486).

Referring to Claims 3 and 15, the combination of the applicant's submitted prior art and Hughes does not teach said preamble interval comprising a repeating cycle of a preamble transmission interval and a preamble non-transmission interval, and wherein the preamble generator generates the preamble signal during the preamble transmission interval. Scott teaches said preamble interval comprising a repeating cycle of a preamble transmission interval and a preamble non-transmission interval, and wherein the preamble generator generates the preamble signal during the preamble transmission interval (see col. 2, lines 6-20). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Scott to said mobile station device of the applicant's submitted prior art in order to allow easier evaluation of received signal quality.

Referring to Claims 4 and 16, Scott also teaches said preamble generator generating said preamble signal in said preamble transmission interval just prior to the transmission interval of the access channel message, the preamble transmission being provided during an ending part of the preamble interval (see col. 1, lines 65-67 and col. 2, line 1).

Referring to Claims 5 and 17, Scott also teaches said preamble generator generating said preamble signal using transmission power increased by a predetermined level (see col. 2, lines 52-56).

Regarding Claims 9 and 21, Scott also teaches said preamble generator generating the preamble signal with transmission power increased by a predetermined level during a next preamble transmission interval, upon failure to receive sync acquisition information in the preamble non-transmission interval (see col. 2, lines 52-56).

Referring to Claims 10 and 22, Scott also teaches said preamble generator generating said preamble signal during a predefined part of the preamble interval (see col. 2, lines 22-29).

Referring to Claims 11 and 23, Scott also teaches said preamble generator generating said preamble signal during predefined beginning and ending parts of the preamble interval (see col. 2, lines 22-29).

Referring to Claims 12 and 24, Scott also teaches said mobile station generating the preamble signal during the preamble transmission interval that is exclusively assigned to the mobile station (see col. 2, lines 37-42).

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Referring to Claims 25 and 27, Scott also teaches the power level of the preamble signal higher than a reverse pilot channel (see col. 2, lines 52-56).

Referring to Claims 26 and 28, Scott also teaches the preamble signal as a transmission of a reverse pilot channel at an increased power level (see col. 2, lines 52-56).

5. Claims 2 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's submitted prior art and Hughes as applied to claims 1 and 13 above, and further in view of Nakamura et al. (US 6,314,090).

Referring to Claims 2 and 14, the prior art teaches said preamble generator comprising a generator 120 (fig. 1) for generating a reverse pilot signal (see R_PICH in fig. 1), and an amplifier 122 (fig. 1) for amplifying the reverse pilot signal received from the generator to a predetermined strength. The combination of Hughes and the applicant's submitted prior art does not teach, a gating controller for intermittently transmitting the reverse pilot signal. Nakamura teaches a gating controller for intermittently transmitting the reverse pilot signal (see col. 5, lines 43-48). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Nakamura to said mobile station device of the applicant's submitted prior art in order to increase detection probability for the preamble.

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6. Claims 6-8 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's submitted prior art, Hughes and Scott in view of Szczutkowski et al. (US 4,817,146).

Regarding Claims 6 and 18, the combination of Scott, Hughes, Nakamura, and the applicant's submitted prior art does not teach said preamble generator interrupting generating of the preamble signal upon receiving sync acquisition information from the base station. Szczutkowski teaches said preamble generator interrupting generating of the preamble signal upon receiving sync acquisition information from the base station (see col. 21, lines 13-25). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Szczutkowski to said mobile station device of the applicant's submitted prior art in order to speed up transmission of data by effectively reducing the time of preamble transmission.

Regarding Claims 7 and 19, Szczutkowski also teaches said mobile station shortening said preamble interval and immediately transmitting the access channel message, upon receiving sync acquisition information from the base station (see col. 21, lines 13-25).

Regarding Claims 8 and 20, Szczutkowski also teaches the sync acquisition information is non-coded data (see col. 21, lines 18-20 noting the "valid number" in non-coded).

Response to Arguments

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7. Applicant's arguments filed 12/15/2004 have been fully considered but they are not persuasive.

The applicant argues that Hughes does not teach a preamble signal transmitted intermittently in order to reduce interference on other reverse link channels during a preamble interval prior to a transmission interval of a message, but rather Hughes teaches that the intended purpose of having a preamble with a "gap long enough to enable receiving BIUs to reset for receipt of a new packet" is to enable the aforesaid resetting, which is different. That part of the claim was interpreted differently by the examiner. It reads, "a preamble signal transmitted intermittently **in order to** reduce interference on other reverse link channels during a preamble interval prior to a transmission interval of a message", which can also mean that a preamble signal transmitted intermittently **automatically causes** reducing interference on other reverse link channels during a preamble interval prior to a transmission interval of a message. Therefore, the examiner does not need to prove that the Hughes reference contains the limitation of reducing interference on other reverse link channels during a preamble interval prior to a transmission interval of a message.

In addition, the examiner still strongly believes that the Hughes reference teaches the limitation of an intermittently transmitted preamble signal as is clearly shown in figs. 5A and 5C. The examiner also believes that the entered amendment did not overcome the currently cited prior art, but in fact, narrowed the scope of the independent claims in order for the Hughes reference to read on the claims more

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strongly. The amendment citing that "the preamble signal includes a non-transmission interval" is also clearly taught in fig. 3 of the Hughes reference.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugene Yun whose telephone number is (703) 305-2689. The examiner can normally be reached on 8:30am-5:30pm Alt. Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (703) 308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EY


Eugene Yun
Examiner
Art Unit 2682


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